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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FILIPCZYK, MARCIN R

ART UNIT	PAPER NUMBER
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2171

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/764,011	Applicant(s) BURROWS ET AL.1	
	Examiner Marc R Filipczyk	Art Unit 2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-19 and 21-66 is/are rejected.
- 7) ☒ Claim(s) 1-5, 7-19, 21-66 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: |

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DETAILED ACTION

This is in response to Applicant's amendment filed on July 10, 2003. The indicated allowability by Examiner of claims 6-9 and 19-23 on March 5, 2003 is withdrawn without prejudice in view of the prior art used and existing 35 USC § 112 issues raised after further examination of the application and prior art of record.

Claim Objections

Claims 1-5, 7-19 and 21-66 are objected to because of the following informalities: The term "median" is not defined, however to expedite the processing of the application the term is interpreted as a middle value of a list or a parent in a tree structure. Appropriate correction is required.

Specification

The disclosure is objected to because of the following informalities: Page 1, line 20 contains grammatical errors.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the **first** paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 1-5, 7-19 and 21-66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The disclosure including figures and claims does not disclose the processing of an entire list of elements and deriving a balanced tree. For example, the median is unaccounted for if the list has an even number of elements. Further, how are the children nodes entered?

Claims 1-5, 7-19 and 21-66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims do not disclose the processing of an entire list of elements and deriving a balanced tree. For example, the median is unaccounted for if the list has an even number of elements. Further, how are the children nodes entered?

Claim Rejections - 35 USC § 112

The following is a quotation of the **second** paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5, 7-19 and 21-66 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps.

See MPEP § 2172.01. The omitted steps are: the processing of an entire list of elements and

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deriving a balanced tree. For example, the median is unaccounted for if the list has an even number of elements. Further, how are the children nodes entered?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-5, 7-19 and 21-66 are rejected under 35 U.S.C. 102(a) as best as Examiner is able to ascertain as being anticipated by Applicant's Admitted Prior Art (AAPA).

Regarding claims 1-5, 7-19 and 21-66, AAPA discloses a binary tree consisting of a root and pointers, and a balanced binary tree is generally symmetrical from left to right and has the same or nearly the same number of elements on the left and right sides (page 1, 8-22, AAPA).
(Note: elements in a list may represent data of any type i.e. logged events)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-5, 7-19 and 21-66 are rejected under 35 U.S.C. 103(a) as best as Examiner is able to ascertain as being unpatentable over “INTRODUCTION TO ALGORITHMS” by Cormen, Leiserson and Rivest (hereinafter “CLR”) in view of “Indexing Large Metric Spaces for Similarity Search Queries” by Bozkaya and Tolga (hereinafter “BT”).

Regarding claims 1-5, 7-19 and 21-66, CLR discloses creating and searching (page 388, CLR) a balanced binary tree using nodes and assigning values (page 386, fig. 19.4, CLR), but does not expressly teach a method for creating a binary tree from a list of elements, wherein the list includes left and right side groupings.

(Note: creating a binary balanced tree involves inserting left and right descendent nodes)

However, BT teaches indexing large metric spaces for similarity search queries (title, BT) in which a binary vp-tree is constructed (binary trees) by subdividing a list into two lists of equal cardinality at the median (pages 6 and 7, section 3.3).

(Note: binary vp-tree is introduced as a binary tree, see page 5, BT)

Further, selecting a side for processing, where for example left side groupings are in preference to right side groupings was a common programming technique before the Applicant's claimed invention. Hence, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to create binary tree structures by reading and subdividing the list by use of a median as taught by BT to effectively construct a tree structure including all the elements in the list.

(Note: elements in a list may represent data of any type i.e. logged events)

Response to Amendment

Applicant's arguments filed on July 10, 2003 have been fully considered but they are not persuasive.

Applicant submits on pages 18 and 19 of the 7/10/03 response that the present application is in condition for allowance because the allowable subject matter of claims 6-9, and 20-23 is incorporated into independent claims.

In response to the 7/10/03 reply Examiner disagrees. Having withdrawn the indicated allowability stated on March 5, 2003 of all the claims, a new office action is issued.

With respect to all the pending claims 1-5, 7-19 and 21-66, Examiner respectfully traverses Applicant's assertion based on the discussion cited above, as such, Examiner presents new rejections.

Conclusion

To expedite the process of examination Examiner requests that all future correspondences in regard to overcoming prior art rejections or other issues (e.g. 35 U.S.C. 112, objections and the like) set forth by the Examiner that Applicants provide and link to the most specific page and line numbers of the disclosure where the best support is found (see 35 U.S.C. 132).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc R Filipczyk whose telephone number is 703-305-7156.

The examiner can normally be reached on Mon-Fri, 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

MF
September 22, 2003


SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100